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10/575,202

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7590

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EXAMINER

HO, ANTHONY

ART UNIT

PAPER NUMBER

2815

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/575,202 | <b>Applicant(s)</b><br>KUMAKI ET AL. |  |
|                              | <b>Examiner</b><br>ANTHONY HO        | <b>Art Unit</b><br>2815              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 23, 2010 has been entered.

### ***Claim Objections***

2. Claim 16 is objected to because of the following informalities: For examination purposes, replace "a cathode over the forth layer" with "a cathode over the fourth layer" in line 9 of claim 16. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 15-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (US PUB 2005/0098207) in view of Forrest et al (US Patent 5,703,436).

In re claims 15, 16, 32, and 34, Matsumoto et al discloses a light emitting device comprising: an anode (71) containing a light-transmitting material; a first layer (72 or 73) containing a light-emitting material over the anode; a second layer (74) containing an organic compound and an electron-supplying material; a third layer (76 or 77) including a transparent conductive film over the second layer; and a fourth layer (77 or 79) containing a hole transporting material over the third layer, the fourth layer in direct contact with the third layer; and a cathode (78) containing reflective metal over the fourth layer, the cathode being in direct contact with the fourth layer (i.e. Figure 19; Figure 20; Example 7).

Matsumoto et al does not disclose the transparent conductive film comprises at least one of the listed materials.

However, Forrest et al discloses using ITO for the transparent conductive film (i.e. column 4).

The advantage is to produce an organic semiconductor device which is extremely reliable, substantially transparent when de-energized, and relatively inexpensive to produce (i.e. column 3).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the light emitting device as taught by Matsumoto et al with using ITO for the transparent conductive film as taught by Forrest et al in order

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to produce an organic semiconductor device which is extremely reliable, substantially transparent when de-energized, and relatively inexpensive to produce.

In re claims 17 and 33, Matsumoto et al discloses using one of the listed materials for the cathode (see Figure 19 or 20).

In re claim 18, Matsumoto et al discloses the transparent conductive film is not in direct contact with the reflective metal (Figure 19 shows layer 76 is not in direct contact with layer 78).

In re claims 19, 20, 35 and 36, Matsumoto et al discloses using metal complexes for the second layer (see Figure 19 or 20).

In re claims 21, 22, 37 and 38, Matsumoto et al discloses using one of the listed metals (i.e. Li) for the organic compound (i.e. Example 7).

In re claims 23-25 and 39-41, Matsumoto et al discloses an inorganic compound (i.e. vanadium oxide) contained in the fourth layer (see Figure 19 or 20).

In re claims 26-28 and 42-44, Matsumoto et al discloses using an organic compound for the hole transporting layer (see Figure 19 or 20).

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In re claims 29, 30, 45 and 46, Matsumoto et al discloses the electron-receiving properties comprises metal oxide (see Figure 19 or 20).

In re claims 31 and 47, the recitation “wherein the electronic device is one selected from the group consisting of a television receiving machine, a personal computer, head mount display, a mobile phone and a video camera” in the claim specifies an intended use or field of use and is treated as nonlimiting since it has been held that in device claims, intended use must result in a structural difference between the claim invention and the prior art in order to patentably distinguish the claim invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. *In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

5. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (US PUB 2005/0098207) in view of Forrest et al (US Patent 5,703,436) as applied to claim 15 above, and further in view of Igarashi (US PUB 2002/0134984). Matsumoto et al, as modified by Forrest et al, as discussed above, does not disclose including a light-emitting layer containing the light-emitting material, and electron-

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injecting layer, and electron-transporting layer, a hole-blocking layer, a hole-transporting layer, and a hole-injecting layer.

However, Igarashi does disclose having a light-emitting layer containing the light-emitting material, and electron-injecting layer, and electron-transporting layer, a hole-blocking layer, a hole-transporting layer, and a hole-injecting layer in a light-emitting device (i.e. paragraphs 0077, 0079).

The advantage is to be able to have a light-emitting device with a plurality of functions (i.e. paragraph 0079).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the light-emitting device as taught by Matsumoto et al as modified by Forrest et al with having a light-emitting layer containing the light-emitting material, and electron-injecting layer, and electron-transporting layer, a hole-blocking layer, a hole-transporting layer, and a hole-injecting layer in a light-emitting device as taught by Igarashi in order to be able to have a light-emitting device with a plurality of functions.

### ***Response to Arguments***

6. Applicant's arguments filed June 23, 2010 have been fully considered but they are not persuasive.

7. In response to applicant's argument that layer 76 and layer 77 in Matsumoto are not electrodes, examiner asserts that layer 76 in Matsumoto is composed of  $V_2O_5$ :CuPc and layer 77 in Matsumoto is composed of CuPc and both of these materials are

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conductive. They are considered “electrodes” because they are conductive materials.

Furthermore, the term “electrodes” are mere labels and layer 76 and layer 77 in

Matsumoto are capable of acting as “electrodes.”

8. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the third layer/transparent conductive film is an electrode) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

9. In response to applicant's argument that there is no reason to replace layer 76 or layer 77 of Matsumoto with layer 26l of Forrest, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY HO whose telephone number is (571)270-1432. The examiner can normally be reached on M-F: 1:30PM-10:00PM EST.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. H./  
Examiner, Art Unit 2815

/Eugene Lee/  
Primary Examiner, Art Unit 2815